

WHAT IS CLAIMED IS:

1. A non-shrink high viscosity chemical grout comprising:
on the basis of solid content,
 - a) 100 parts by weight of a room temperature curable organic liquid
 - 5 phase resin;
 - b) 10 to 200 parts by weight of glass beads; and
 - c) 10 to 500 parts by weight of glass powder.
2. The non-shrink high viscosity chemical grout according to claim 1, wherein the a) room temperature curable organic liquid phase resin is selected from
- 10 the group consisting of an epoxy based resin and a polyurethane based resin.
3. The non-shrink high viscosity chemical grout according to claim 2, wherein the epoxy based resin is a non-solvent or solvent diluting epoxy resin having molecular weight of 350 to 3000 MW of diglycidyl type or triglycidyl type.
4. The non-shrink high viscosity chemical grout according to claim 1, wherein
- 15 the b) glass beads have particle diameter of 200 mesh to 3 mm.
5. The non-shrink high viscosity chemical grout according to claim 1, wherein the c) glass powder has particle diameter of 10 μm to 1 mm.
6. The non-shrink high viscosity chemical grout according to claim 1, wherein the grout has viscosity of 1000 to 20000 cps.
- 20 7. A non-shrink high viscosity chemical grout comprising the components of the non-shrink high viscosity chemical grout according to anyone of claims 1 to 6, and, on the basis of 100 parts by weight of the a) room temperature curable organic liquid phase resin, d) 1 to 50 parts by weight of glass fiber.
8. The non-shrink high viscosity chemical grout according to claim 7, wherein
- 25 the d) glass fiber is a chopper fiber prepared by cutting a long glass fiber of E-glass composition to a length of 2 to 12 mm, or a milled fiber prepared by

milling the same to a length of 100 to 300 μm .

9. The non-shrink high viscosity chemical grout according to claim 7, wherein the chemical grout has viscosity of 15000 to 20000 cps.

10. A method for repairing and reinforcing a construction, which uses the
5 non-shrink high viscosity chemical grout of claim 1 or claim 9.

11. The method for repairing and reinforcing a construction according to claim 10, which comprises the steps of cleaning the surface of a part to be reinforced or around cracks of a construction, coating the surface with the non-shrink high viscosity chemical grout, and curing the coated surface to
10 form a coating film.

12. The method for repairing and reinforcing a construction according to claim 10, which comprises the steps of installing an injection pack on the upper part of cracks of a construction to inject the non-shrink high viscosity chemical grout on the upper part of cracks by free fall caused by gravity or by
15 applying pressure, removing the injection pack, and finish-treating the cracked surface.

13. The method for repairing and reinforcing a construction according to claim 10, wherein a part of a construction to be filled is cleaned and then filled with the non-shrink high viscosity chemical grout.

20 14. The method for repairing and reinforcing a construction according to claim 13, wherein the construction has cracks having width of 0.5 mm or more, or corroded inner steel reinforcing, and a part to be filled is filled with the non-shrink high viscosity chemical grout without conducting a separate U or V type cutting.

25 15. The method for repairing and reinforcing a construction according to claim 10, wherein reinforcement is integrated into the construction, and the

non-shrink high viscosity chemical grout is used as an adhesive.

16. The method for repairing and reinforcing a construction according to claim 10, wherein a carbon fiber is impregnated into the non-shrink high viscosity chemical grout and then pulled up, and adhered and cured to a
5 direction of main reinforcement of a concrete.

17. The method for repairing and reinforcing a construction according to claim 10, wherein a carbon fiber is impregnated into the non-shrink high viscosity chemical grout and cured to prepare a panel, and the panel is adhered to a construction.

10 18. The method for repairing and reinforcing a construction according to claim 10, wherein a damaged part of an underwater or submerged construction is restored with the non-shrink high viscosity chemical grout.

19. A method for repairing and reinforcing a bottom of a ship, which uses the non-shrink high viscosity chemical grout according to claim 1 or claim 9.

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